



ZStack vs. VMware

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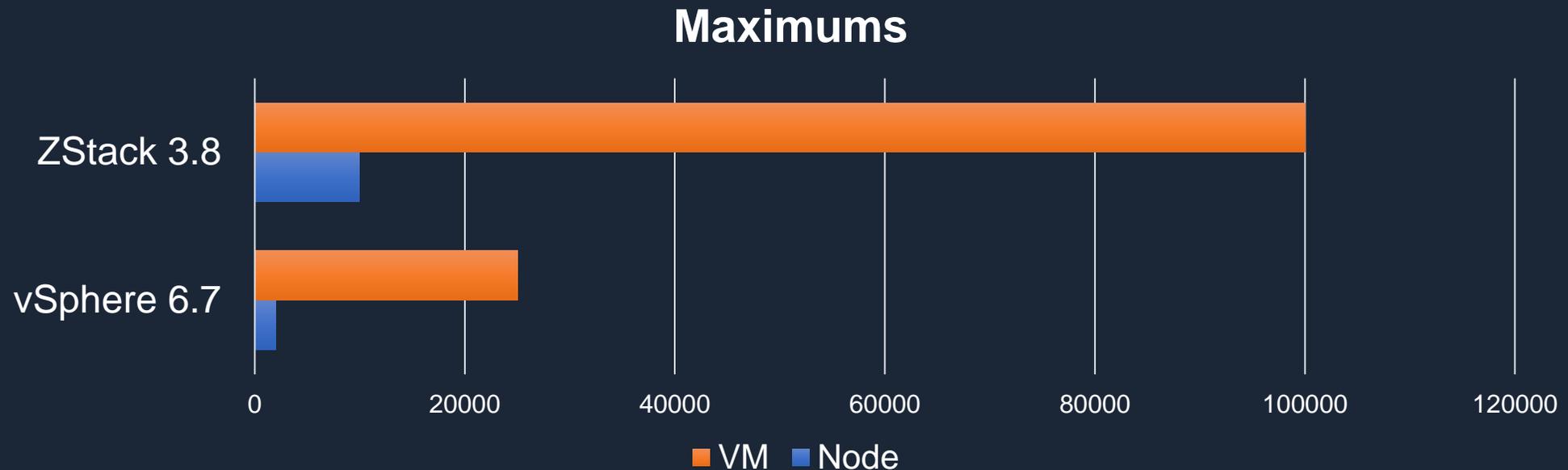
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ZCCE
CCIE RS | CCIE SP
HCIE RS | HCIE CLOUD



Performance Comparison

ZStack Cloud supports **10000 hosts** and **100000 VMs** in a single zone. Because of its advanced design, ZStack Cloud's performance is impossible to be caught up by other products. Using ZStack Cloud can let costumers easily handle any business scenarios and challenges. In addition, ZStack only needs **4 cores 8G memory** to install.



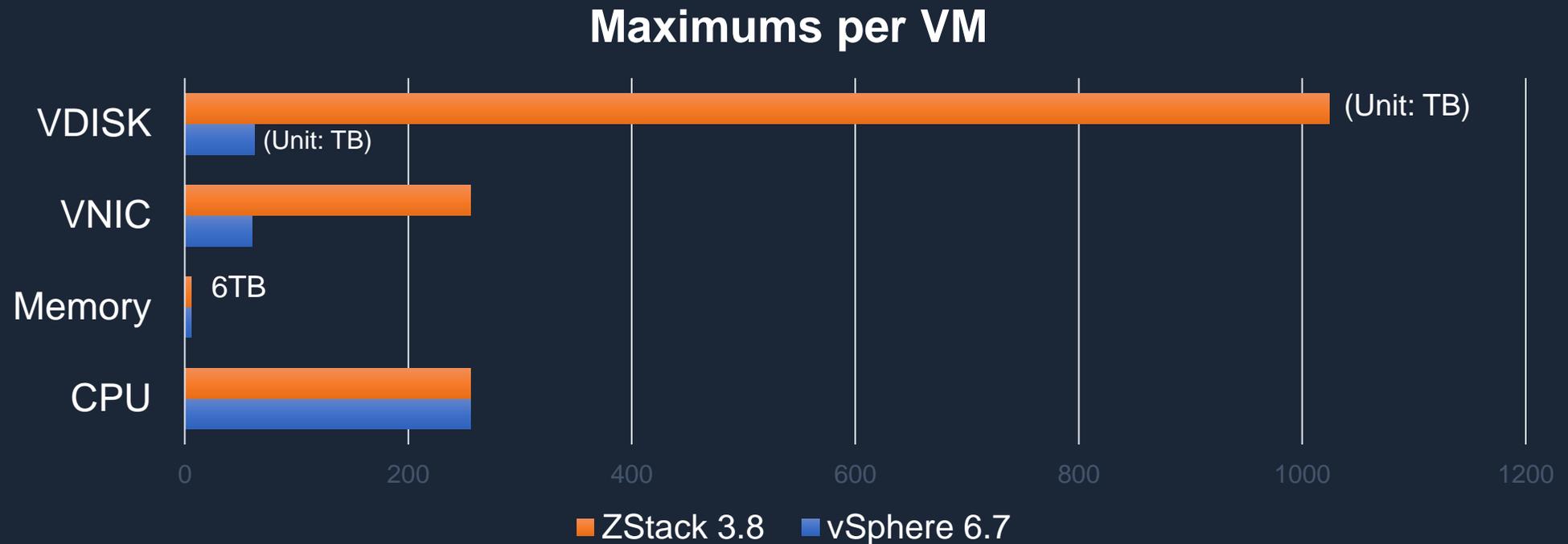
Data Source:

<https://configmax.vmware.com/guest?vmwareproduct=vSphere&release=vSphere%206.7&categories=3-0>

https://www.Alibaba Cloud ZStack.io/help/product_manuals/maintenance_manual/16.html#c16_1_2

Performance Comparison

ZStack Cloud supports **1PB vDisk** and **256 vNIC for single VM**, it gives VM ability to deal with bigger data.



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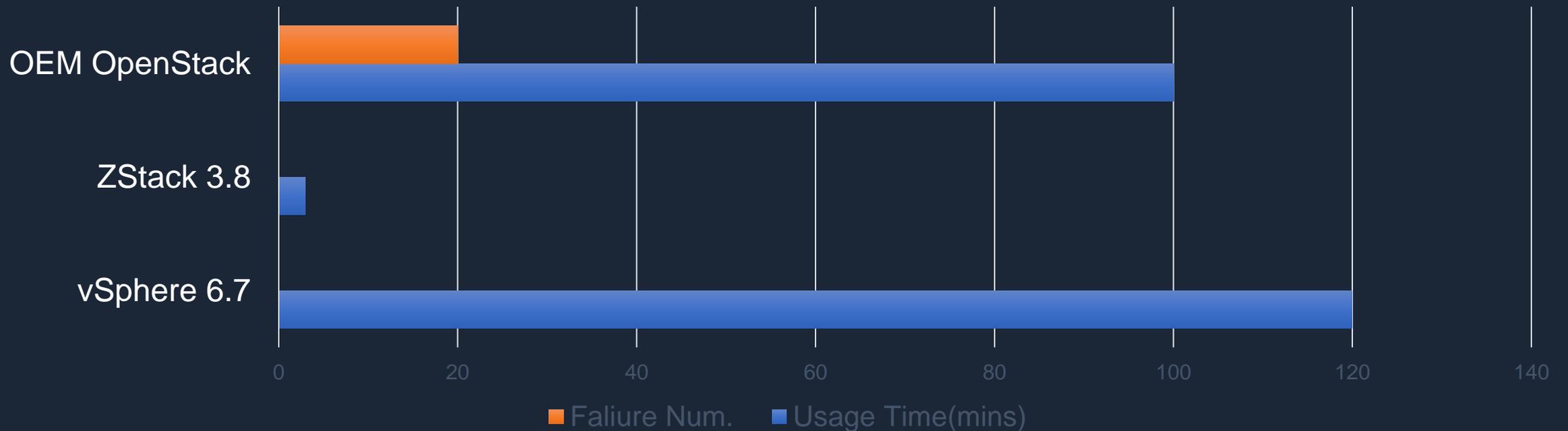
https://www.Alibaba Cloud ZStack.io/help/product_manuals/maintenance_manual/16.html#c16_1_2

Performance Comparison

ZStack Cloud batch creates **500 VM only need 2 mins 40 sec**. This data comes from a real case:

A government security organization planned to build a cloud for its cybersecurity skills training project. To meet the specifications of the training system which needed to quickly create around 500 VM, the customer invited three vendors to do a test based on the same hardware. Finally the customer chose ZStack because of our excellent performance.

Batch Create 500 VM



https://www.Alibaba Cloud ZStack.io/cases/cases_privacy_cloud/case_government/

Comparison of Terms Definition

ZStack Cloud VS. VMware			
	Level	ZStack	VMware
Terms Definition	Top	Region	Data Center
	Secondary	Cluster	Cluster
	Third	Host	Host
	Fourth	Virtual Machine	Virtual Machine

Comparison of Basic Functions - 1

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Basic Functions	One-click 30-minute cloud platform deployment	support	support
	One-click seamless upgrade without affecting business	support	not support
	Virtual machine OS replacement	support	not support
	Virtual machine high availability	support	support
	Snapshot	support	support
	Clone online	support	support
	Hard disk clone alone	support	support
	Hard disk expansion online	support	support
	ssh-key injection	support	not support
	Chang the virtual machine password out of band	support	not support
	Online migration	support	support
	Offline migration	support	support

Comparison of Basic Functions - 2

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Basic Functions	GPU passthrough	support	support
	Mirror operation	Upload and export	Upload and export
	Template operation	Upload and export	Upload and export
	Console protocol	VNC、SPICE、WEB	VMRC、VNC、WEB
	Console password setting	support	not support
	Nested virtualization	support	support
	Large screen for dynamic monitoring	support	not support
	Arm architecture heterogeneous physical machine management	support	not support
	Customize alarm content	support	not support
	Customize label	support	not support

Comparison of Storage Leading Features

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Storage Leading Features	Local storage image pre-distribution	support	not support
	Recycle bin function	support	not support
	Image deduplication	support	not support
	Storage type	Comprehensive compatibility for storage, support NFS, Ceph, iSCSI, FC, local, aliyunEBS, aliyunNAS	NFS, iSCSI, FC, vSAN (requires separate vSAN authorization), local
	Specify the mount parameters when mounting NAS storage to meet the mounting requirements in special scenarios	support	not support
	Clean up the block device operation when adding san storage, clear the file system, raid, or signature in the partition table in the block device	support	not support

Comparison of Network Leading Features

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Network Leading Features	Network Type	FLAT、VPC	vSS, vDS (DLR, Edge need separate NSX license)
	Virtual switch	support	support
	Virtual machine switch capabilities	Elastic IP, port forwarding, load balancing, DHCP, IPSec VPN, VPC firewall, data flow, data mirror	vSS and vDS, support for advanced features requires separately purchased NSX
	Distributed cloud routing	support	support (requires independent nsx license)
	Black hole routing	support	not support
	Distributed Network Service (dhcp)	support	support
	Dynamic routing protocol	support	support (requires separate nsx advanced version license)
	Security group	support	support (requires separate nsx advanced version license)

Comparison of O&M Features - 1

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Operations & Maintenance	Ticket process approval (resources are automatically created after approval)	support	modules purchased separately
	Customize Organization Structure	support	not support
	Timed task	Virtual machines, snapshots	Virtual machine only
	Overcommitment of Resource	support	support
	Modify resource QoS online	support	support
	batch operations on UI	create, delete, modify	support batch create, modules purchased separately
	Multi-tenant	support	modules purchased separately
	User / tenant quota	support	support (requires vRealize license)
	Resource Sharing	support	support
Billing	support	support (requires vRealize license)	

Comparison of O&M Features - 2

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Operations & Maintenance	Cloud resource recycle bin	support	not support
	Resource unit pricing	support	support (requires vRealize license)
	Operational audit	support	support
	Log collection	support	support
	Alarm function, DingTalk, Email, httphook, TXT message	support	not support
	Real-time performance monitoring, top5 display	support	modules purchased separately
	Asset statistics export	support	only the assets in the ESXi resource pool are supported. modules purchased separately
	Platform heterogeneous management	vCenter/kvm	not support
	Graphic interface	Web	Web、 Client
Physical machine reconnect to restore all service status	support	not support	

Comparison of O&M Features - 3

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Operations & Maintenance	Command Line	support	support
	Access Key	support	not support
	Batch deployment (pxe)	support	ESXi does not support batch deployment, and the virtual machine batch deployment module is purchased separately

Comparison of Baremetal Features

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Baremetal	Bare metal management	support	not support
	Operating system deployment	support	not support

Comparison of Enterprise Management Features

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Enterprise Management	Organization Management	support	support (requires vRealize license)
	Operating system deployment	support	not support
	Project management	support	support (requires vRealize license)
	Project resource quota	support	support (requires vRealize license)
	Customized ticket process approval	support	support (requires vRealize license)

Comparison of Backup Features

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Backup	Local backup	support	not support
	Remote site backup	support	not support
	Public cloud backup	support	not support
	Management node database backup	support	not support
	Virtual machine backup	support	not support
	Full backup	support	not support
	Incremental backup	support	not support

Comparison of VMware Take CDP Features

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Continuous Data Protection	Cloud Host Lifecycle CDP	support	not support
	Custom CDP Policies	support	not support
	CDP Backup Rate QoS	support	not support
	Retrieving Cloud Host Files	support	not support
	Manually set protection points	support	not support

Comparison of Public Cloud Integration

ZStack Cloud VS. VMware			
	Item	Alibaba Cloud ZStack	VMware
Public Cloud Integration	Alibaba Cloud ECS Management	support	not involved
	Alibaba Cloud vpc and local interconnection	support	not involved
	Alibaba Cloud Switch	support	not involved
	Alibaba Cloud Security Group	support	not involved
	Alibaba OSS storage	support	not involved

Operations and Management

	ZStack	VMware
One-click 30-minute cloud platform deployment	Supported	Not Supported
One-click seamless upgrade without affecting business	Supported	Not Supported
Virtual machine OS replacement	Supported	Not Supported
Batch deployment	Supported out of the box	Need to buy additional module for this feature
Real-time performance monitoring, top5 display	Supported	modules purchased separately
Platform heterogeneous management	Support for vCenter/KVM	Not supported
Recovery from accidental deletes/loss of hosts	Supported	Not supported
Alarm function, DingTalk, Email, httphook, TXT message	Supported	Not supported
Ticket process approval (resources are automatically created after approval)	Supported	modules purchased separately
Customize Organization Structure	Supported	Not supported
vCPU Priority	Supported	Not supported

Network

	ZStack	VMWare
Black hole routing	Supported	Not supported
Distributed cloud routing	Supported out of the box	Need to purchase NSX licenses for additional network capabilities
Dynamic routing protocol	Supported out of the box	Need to purchase NSX licenses for additional network capabilities
Virtual switch capabilities, like load balancing, port forwarding, IPSec VPN	Supported out of the box	Need to purchase NSX licenses for additional network capabilities

Storage and Backup

	ZStack	VMWare
Local storage image pre-distribution	Supported	Not Supported
Recycle bin function	Supported	Not Supported
Image deduplication	Supported	Not Supported
Multi-image storage synchronization	Supported	Not Supported
Live migration between different storage servers	Supported	Not Supported
Local and Remote site backup	Supported out of box	Need additional components
Public cloud backup	Supported out of box	Need additional components
Full and incremental backups	Supported out of box	Need additional components

Bare Metal & Enterprise Management

	ZStack	VMWare
Host operating system deployment	Supported	Not supported
Host Linux management and monitor	Supported	Not supported
Organization Management	Supported out of the box	Not supported (requires vRealize license)
Project management	Supported out of the box	Not supported (requires vRealize license)
Project resource quota	Supported out of the box	Not supported (requires vRealize license)
Customized ticket process approval	Supported out of the box	Not supported (requires vRealize license)

Bare Metal & Enterprise Management

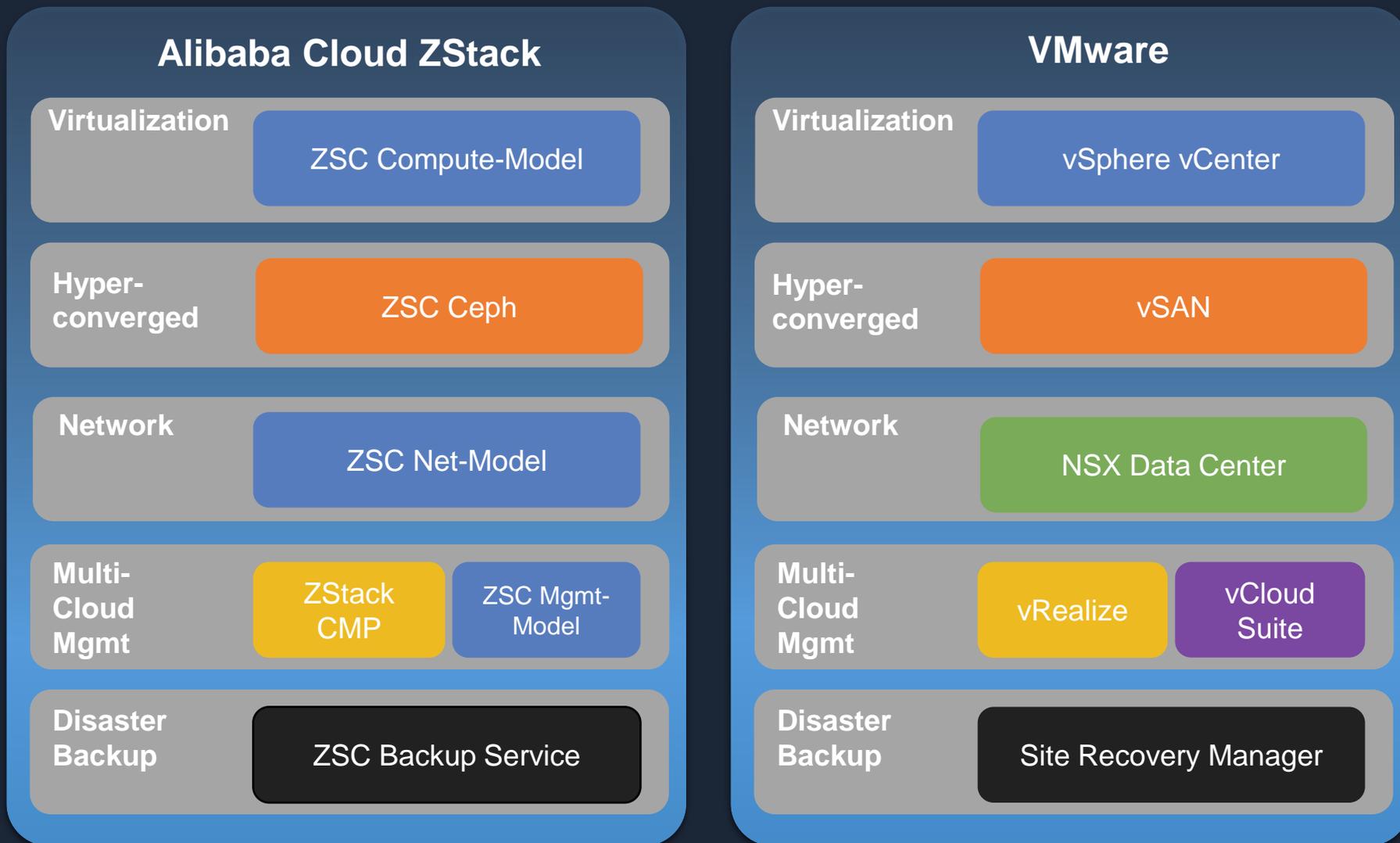
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Host Linux management and monitor	Supported	Not supported
Organization Management	Supported out of the box	Not supported (requires vRealize license)
Project management	Supported out of the box	Not supported (requires vRealize license)
Project resource quota	Supported out of the box	Not supported (requires vRealize license)
Customized ticket process approval	Supported out of the box	Not supported (requires vRealize license)

Others

	ZStack	VMware
DPM (Distributed power management)	Not supported	Supported
Fault tolerance – Hot standby shadow VM	Not supported (Able to be achieved by Load Balancer)	Supported
NSX	In-built networking features	More features but additional cost

01 Solution Comparison

ZStack vs. VMware Modules



Quick Time to Market

Deployment and Installation

- A basic setup can be done within 30 minutes

Upgrades

- Version upgrades can be done in a rolling fashion without affecting the business

Easy and User-friendly O&M

One stop shop

- All O&M can be performed using the same web-based console
- Most of the features supported out-of-the-box without any additional cost

Open source

- ZStack is based on KVM and hence works well with most distributions and flavors of Linux

Automation

- Everything is API based and hence can be automated end to end

Cost effective

Perpetual licensing model

- Pay once for a CPU license with the future version upgrades included

All-in-one

- Most of the features and capabilities are out of the box i.e covered under the CPU license.

Summary

When comparing similar features i.e ZStack Enterprise with vCenter + vSphere, ZStack offers the following benefits:

- Similar features with significant cost advantage
- Compatibility with customer's existing hardware/bare metal
- Complements the existing VMware setup
- Integration and burst capabilities to public cloud



ZStack

Empower Every Enterprise To Have Their Own Cloud

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